



Portable 40 GB USB 2.0 Hard Drive with Rapid Restore

User's Guide



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User's Guide

Note: Before using this information and the product it supports, read the information in Appendix C, “Warranty information”, on page 37 and Appendix D, “Notices”, on page 49.

First Edition (April 2003)

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Preface

This manual provides information on the IBM® Portable 40 GB USB 2.0 Hard Drive with Rapid Restore. This manual is written for the installer and user of this equipment and contains the following information:

- Chapter 1, "Hardware User's Guide" contains instructions for installing and using the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore.
- Chapter 2, "Introduction to Rapid Restore Ultra" contains a listing of Rapid Restore Ultra components and system requirements, and an overview of the Rapid Restore Ultra concepts.
- Chapter 3, "Installing Rapid Restore Ultra" contains installation prerequisites and instructions.
- Chapter 4, "Using Rapid Restore Ultra" contains instructions on how to backup your data, restore your system, schedule backup operations, and restore single files using Rapid Restore Ultra.
- Appendix A, "Troubleshooting" contains information that might be helpful if you encounter trouble using Rapid Restore Ultra.
- Appendix B, "Glossary" contains definitions of industry terms to assist you in understanding some of the concepts discussed in this guide.
- Appendix C, "Warranty information" provides warranty information.
- Appendix D, "Notices" contains trademarks and legal notices.

Registering your option

Thank you for purchasing this IBM product. Please take a few moments to register your product and provide us with information that will help IBM to better serve you in the future. Your feedback is valuable to us in developing products and services that are important to you, as well as in developing better ways to communicate with you. Register your option on the <http://www.ibm.com/pc/register> IBM Web site.

IBM will send you information and updates on your registered product unless you indicate on the Web site questionnaire that you do not want to receive further information.

Before you begin

Be sure to review the following information before installing and using the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore.

Attention

Only use the cables that come with this option. You might damage the drive if you use a cable not included with the option package. Do not attach an ac adapter to this device.

- To avoid damaging your USB Hard Drive, handle with care. When transporting the drive or when it is not in use, place it in the carrying case that comes with the option. For more information on correctly handling your USB Hard Drive, see “Maintaining the drive” on page 3.
- The primary USB cable must be connected to a USB high power port. If you experience problems, try connecting the primary USB cable to another USB port on the rear of the system.
- When using your USB Hard Drive on a mobile computer with a USB 2.0 PCMCIA card, the primary USB cable must be inserted into the PCMCIA card high power port. You must also connect the auxiliary power cable to the USB port on the rear of the mobile computer to provide adequate power.

Attention

IBM does not support this product with a third party disk-utility that reorders or sorts the partition table.

Online Help

Rapid Restore’s integrated Online Help pane is an invaluable source of information. The Help pane contains information that dynamically updates as you access different Rapid Restore components.

In addition, you can access Rapid Restore’s Online Help System by performing the steps below.

1. Access Rapid Restore’s main console.
2. Click the **Help** button.



Figure 1. Help button

Chapter 1. Hardware User's Guide

This chapter contains instructions for installing and using the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore.

Note: Before you install and use the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore, be sure to read "Before you begin" on page vii.

Product description

The IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore is a portable, lightweight, high-speed USB hard disk drive that is compatible with the USB 2.0 standard that enables data transfers that are up to 40 times faster than through existing USB 1.1 connections. The drive can be used with mobile or desktop computers and is also compatible with USB 1.0 and USB 1.1 connections. After you install the drive, it operates as a plug-and-play device and is hot-swappable.

The option package includes:

- IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore
- Primary USB cable (USB "A" to "mini B" connection)
- Auxiliary power cable
- *User's Guide and Software CD* that includes the Rapid Restore software and this online *User's Guide*
- Warranty flyer
- Carrying case

Hardware and software requirements

You must have the following hardware installed on your computer:

- Minimum 200Mz Intel Pentium® microprocessor
- 64 MB Random Access Memory (RAM)
- CD-ROM or DVD-ROM drive to install the software on the included CD
- USB 1.1 or 2.0 ports

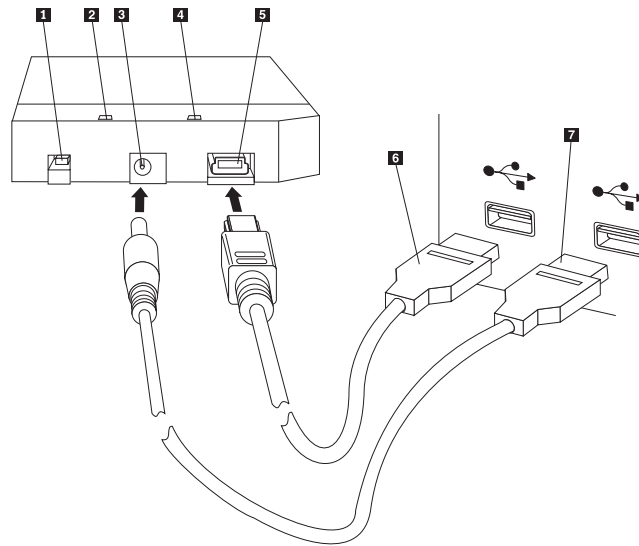
Your computer must have Microsoft® Windows® 2000 Professional or Microsoft Windows XP installed to use the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore.

Installing the drive

This section provides instructions for installing the drive.

To install the drive, complete the following procedure:

1. Attach the primary USB cable to the USB port **5**, as shown in Figure 2.



- 1** Power switch
- 2** Drive activity LED
- 3** Auxiliary power port
- 4** Power LED
- 5** USB port
- 6** Primary USB cable
- 7** Auxiliary power cable

Figure 2. Installing the drive

2. Connect the other end of the primary USB cable **6** to an available USB port on your computer.
3. Attach the auxiliary power cable to the auxiliary power port **3** on the drive.
4. Attach the other end of the auxiliary power cable **7** to an available USB port on your computer.
5. Turn the switch **1** to the on position.

Attention

Only use the cables that come with this option. You might damage the drive if you use a cable not included with the option package. Do not attach an ac adapter to this device.

6. Open **My Computer** and double-click the icon that is associated with the IBM USB Hard Drive.

Windows will automatically detect the drive. The first time you perform these steps, a welcome window will open with the option to install Rapid Restore Ultra.

If you intend to use the included Rapid Restore Ultra software, be sure to read the general introductory information on Rapid Restore Ultra, in Chapter 2, "Introduction to Rapid Restore Ultra", on page 5. To install Rapid Restore Ultra, see Chapter 3, "Installing Rapid Restore Ultra". For information as to how to

incorporate a USB drive within your backup strategy using the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore, see Chapter 4, "Using Rapid Restore Ultra".

If you do not intend to use the included Rapid Restore software, then your drive is ready to use, no software install is required. To disable the autolaunch, click **Do not show this again** in the lower-left hand corner of the browser window, disconnect the drive, and then reconnect the drive.

Note: Depending on the amount of data that is being backed up, the Rapid Restore installation can require a substantial amount of time. This is especially true when backing up via USB 1.1. Interrupting a Rapid Restore installation may result in data loss.

Making your drive bootable

Your drive can be configured to be bootable on systems that have boot-to-USB BIOS support. Typically, the BIOS will detect the drive as "HDD-1" or "IBM-(USB)." To add the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore to your computer startup sequence, you will need to use your computer BIOS setup utility. For information on using the BIOS setup utility, refer to the documentation that came with your computer.

If you are having a problem, be sure to check the latest BIOS available for your computer. For a list of computers that support booting through BIOS to USB storage devices, refer to the <http://www.ibm.com/pc/support/> IBM support Web site.

Disconnecting the drive from your computer

To disconnect the drive in Windows 2000, complete the following procedure. If you are using Windows XP, only perform steps 3 and 4 below.

1. Click the **Safely Remove Hardware** icon in the system tray.
2. Click the **USB Mass Storage Device** icon to stop the device.
3. Turn the switch to the off position.
4. Disconnect the cables.

Maintaining the drive

Use the following maintenance guidelines for your drive.

- Do not drop or shock the drive.
- Use the drive power switch to turn off the drive when you are not using it.
- Do not operate or store the drive near strong magnetic fields.
- Do not expose the drive to liquids, extreme temperatures, or humidity.
- Do not use any power cables or adapters that are not included in this option package.

Chapter 2. Introduction to Rapid Restore Ultra

IBM Rapid Restore Ultra is a simple managed-recovery solution that protects computers from software-related system failures. In the event of a system failure, you can use IBM Rapid Restore Ultra to restore the contents of the hard disk to a previously saved state.

Rapid Restore Ultra enables you to perform the following functions:

- **Save files to a local service partition.** Rapid Restore Ultra uses a hidden, locked partition on the local hard disk, thereby minimizing the use of network bandwidth during a backup and restore operation. This partition is called the service partition.
- **Restore files to any of three backed-up states.** Rapid Restore Ultra can save up to three backup images in the service partition: the base image, the cumulative image, and the most recent image.
- **Restore files after an operating-system failure.** Under normal circumstances, you can use Rapid Restore Ultra from the Microsoft Windows interface. However, if an operating-system failure prevents you from accessing the Windows interface, you can use the Recovery Manager to perform a full system-recovery operation.
- **Protect the entire software image, including user data.** Rapid Restore Ultra protects the entire contents of the hard disk, including the Windows operating system, software applications, registry settings, network settings, fix packs, desktop settings, and unique data files.
- **Archive backup images to CD-R.** If your computer has a CD-R drive, Rapid Restore Ultra enables you to archive backup images to CD, providing an additional level of protection. These CDs can be used to restore the contents of the hard disk in the event of a hard disk drive failure.
- **Support enterprise-wide recovery and backup policies.** Rapid Restore Ultra supports a command-line interface, which can be used with systems-management tools to integrate enterprise-wide recovery and backup policies.
- **Restore single files.** Rapid Restore Ultra enables you to view, select, and recover one or more individual files from a backup image. Only files found in the file-based backups (the cumulative backup and most recent backup) can be restored individually.
- **Exclude specific files from a backup.** Rapid Restore Ultra enables you to exclude specific files from a backup operation. File exclusion provides the ability to exclude files that have a particular file name. Excluding files can reduce the size of the backup and enable the backup operation to be performed more quickly.
- **Respond to a Disk Full notification.** Rapid Restore Ultra displays a Disk Full notification when any partition nears its capacity. If the partition is a user partition, you can delete or move files, as needed. If the partition is a service partition, you can elect to have it increase in size, provided that sufficient space is available on the hard disk.
- **Save backups to the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore.** Rapid Restore Ultra can save backups to a second hard disk drive. The IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore is a portable, lightweight, high-speed USB hard disk drive that is compatible with the USB 2.0

standard. This optional drive can be used with mobile or desktop computers and is compatible with USB 1.0 and USB 1.1 connections. This feature requires the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore.

You must log on with administrator rights to use Rapid Restore Ultra.

Rapid Restore Ultra requirements

Rapid Restore Ultra supports IBM ThinkCentre™ or ThinkPad® computers that meet the following system configurations:

- **Single disk drive:** Only one hard drive is protected. If a second hard drive is detected, the user is given the option to do one of the following:
 - not back up the second hard drive
 - migrate the contents of the first hard drive to the second hard drive
 - upgrade to a product that supports multiple drives
- **No third party boot manager is installed:** Rapid Restore Ultra will install a boot manager that will enable the Recovery Manager interface during boot time. Any preexisting boot manager will be overwritten.

Supported operating systems

Rapid Restore Ultra is compatible with the following non-server based operating systems:

- Windows XP
- Windows 2000 Professional

Rapid Restore Ultra components

Windows interface. Rapid Restore Ultra includes a Windows interface that enables the end user to customize its behavior. From this interface, the user can define a backup schedule, initiate a backup on demand, create an archive onto CD-R, restore the system from a backup, and select individual files to restore. Large enterprise administrators might want to disable this interface to enforce a company-wide policy. These functions can also be performed using the command-line interface.

Recovery Manager interface. The Recovery Manager interface has been defined to restore a system that is unable to boot to the Windows operating system. During the startup process, the user is informed that pressing F11 or the Access IBM button will launch a recovery menu. In some cases, pressing F11 or the Access IBM button will display the ImageUltra menu or the IBM Product Recovery menu, which list IBM Rapid Restore Ultra on their menus. Otherwise, pressing F11 or the Access IBM button will display the Rapid Restore Ultra menu.

Large enterprise administrators might want to hide the prompt. This can be done using the BIOS settings (on certain models) or the command-line interface. The Recovery Manager menu provides a list of backup sets from which the system can be restored.

Command-line interface. The command-line interface can be used from both Windows and DOS. This interface is intended for large-enterprise administrator use. A license key is required to enable some command-line features.

On-screen help. A Rapid Restore Ultra help file is provided with installation. This file documents the Rapid Restore Ultra Windows interface.

Hidden protected area (HPA) compatibility. Rapid Restore Ultra is compatible with the firmware-secured area of the hard disk known as the hidden protected area (HPA). The HPA provides greater flexibility and security to applications in the preboot environment.

How Rapid Restore Ultra works

Rapid Restore Ultra uses a protected partition, called the *service partition*, on the hard disk to store your backup files. Ultimately, this partition will contain three backup images: the *base* backup image, the *cumulative* backup image, and the *most recent* backup image.

The compressed backup file that is created during the initial installation of Rapid Restore Ultra is stored as the *base* backup image. The first time a backup operation is performed after installation, the *cumulative* backup image is created. Each subsequent incremental backup is compressed and stored separately as the *most recent backup* image. Only files that do not match those in the original backup image or the cumulative backup image are saved in the most recent backup file. All backups are stored in a protected service partition.

Having multiple backup images gives you the option of restoring your hard disk to different previously known states. This is useful when the most recent backup contains a known defect and you want to restore the hard disk to a state that existed before the defect was introduced.

Rapid Restore Ultra manages the service partition so that when the service partition capacity is reached, Rapid Restore Ultra automatically notifies you and gives you the option to increase its size.

Note: For typical user files, compression rates average approximately fifty percent. For example, a 20 GB hard disk with 2 GB of content will generate a 1 GB backup.

About the hidden partition

When you purchased your IBM computer, it came with a full range of devices, programs, utilities, device drivers, etc. to ensure its usefulness and productivity. One of the many utilities that came with your computer is the IBM Recovery Manager, which enables users to restore their computer to its factory-installed state. This ability establishes a base level of protection against software-related system failures. In the event of a system failure, this utility enables you to easily restore your system to its "out-of-box" state.

This system-recovery process is made possible by the use of a hidden *service partition*, which stores the factory image that you use to restore your system to its factory-installed state. This area is also used to store other utilities and possible future system images created by other IBM programs.

Managing backups

Rapid Restore Ultra enables you to determine how often the hard disk is backed up. After installation, automatic backups occur by default so that protection is ensured. You can change the predefined schedule to a customized time and frequency, or disable scheduled backup operations. If you prefer to perform backup operations manually, or you need to perform a backup operation between scheduled backups, you can use the Backup function to perform an on-demand backup operation.

Rapid Restore Ultra scheduled backups default to a schedule of weekly backups, that will be taken every Monday at 8:00 p.m. IBM Rapid Restore is also scheduled to compress storage data after every four backup operations.

Advantages of multiple backups

Rapid Restore Ultra uses a base backup image and two sets of incremental backup files to make three backup images available: the *base* image, the *cumulative* image, and the *most recent* backup image.

The first backup operation that takes place after installation creates the *cumulative* backup image, which only contains files that have been added or changed since the creation of the base image. The next backup operation creates the *most recent* backup image, which captures all changes made since the creation of the cumulative image. Subsequent backup operations keep the most recent backup image up-to-date. Therefore, once the base and cumulative backup images have been established, only incremental changes (files that have been changed or added since the creation of the cumulative image) are saved during a normal backup operation.

The advantages of using multiple backup images include:

- **Increased performance during the creation of a most recent backup image.** All files that are on your hard disk during the initial installation and setup of Rapid Restore Ultra, including the operating system, program files, and personal settings, are copied into the *base* backup image. Because these files are saved in this base backup image, they are not saved again during subsequent backup operations unless they have been modified.
- **Choice of recovery level.** You can choose to recover the base backup image, the cumulative backup image, or the most recent backup image. (Large enterprise customers have two additional backup images from which to choose.) Each of these images represent the state of your hard disk at different points in time. For example, if your system is corrupted shortly after a most recent backup image was created, you can recover the base backup image or the cumulative backup image to replace the corrupted files on your system.

When you restore either the cumulative or most recent backup images, you are actually restoring the base image *plus* incremental changes.

Chapter 3. Installing Rapid Restore Ultra

The following information might be useful when installing Rapid Restore Ultra.

Before you install Rapid Restore Ultra

You should consider the following information when deciding to install Rapid Restore Ultra:

- **Level of protection desired.** Do you want a one-time backup, or will you need continued protection?
- **Time necessary to install.** Install times differ, but installation might take longer than an hour in some cases.
- **State of your system.** Is your system set up the way you would want it to be restored? Will you be adding any other important software?

Before you install Rapid Restore Ultra, make sure you have the following components. The following prerequisites are necessary for Rapid Restore Ultra to function properly:

- An IBM ThinkCentre or ThinkPad computer with no existing extended partitions on the hard disk drive
- Internet Explorer 5.0 or higher

Rapid Restore Ultra installation

This section contains installation instructions for installing IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore. There are three ways to install Rapid Restore Ultra: from the IBM Portable 40 GB USB 2.0 Hard Drive, the *User's Guide and Software CD*, and the Web.

The following instructions assume you are installing Rapid Restore Ultra on a primary hard disk with an existing IBM service partition. If your primary hard disk does not contain a service partition, one is created during the Rapid Restore Ultra installation. If you are prompted to create a service partition during the installation process, simply follow the onscreen instructions.

Installing from the IBM Portable 40 GB USB 2.0 Hard Drive

To install Rapid Restore Ultra from the IBM Portable 40 GB USB 2.0 Hard Drive, complete the following procedure:

Important

You must attach your USB drive to your computer prior to installing Rapid Restore.

1. Close all open applications and disable any virus detection programs.
2. Plug the drive into an available USB port.
3. Turn the power switch to the on (|) position. Windows will self-install the device driver.
4. Open **My Computer** and double-click the icon associated with the IBM USB Hard Drive.

5. Click **Software**.
6. Double-click **IBM Rapid Restore**.
7. Follow the onscreen instructions.

Installing from the CD

To install Rapid Restore Ultra from the *User's Guide and Software CD*, complete the following procedure:

1. Insert the *User's Guide and Software CD* into the CD or DVD drive.
2. If the CD does not start automatically, click **Start**, and then click **Run**.
3. Type `e:\launch.bat` where `e` is the drive letter of the CD or DVD.
4. Click **OK**. The CD browser window opens.
5. Select the language and click **Go**.
6. Click **Software**.
7. Double-click **IBM Rapid Restore**.
8. Follow the onscreen instructions.

Installing from the Web

If you purchased an IBM computer manufactured after 10/1999, you are entitled to download and install Rapid Restore Ultra from the IBM web site. To download and install Rapid Restore Ultra from the IBM Web site, you must first download the installation package and then execute the installation program.

To install Rapid Restore Ultra from the Web, complete the following procedure:

1. Use your browser and navigate to <http://www.ibm.com>.
2. Use the IBM web search tool to search for "Rapid Restore PC." Select the link corresponding to the IBM Rapid Restore PC download page.
3. Download the appropriate readme file (for example, `rrpc25us.txt`) and save it to your desktop. Read this documentation prior to installing Rapid Restore as it contains important late-breaking installation and product information.
4. Download the appropriate installation file (for example, `rrpc25us.exe`) and save it to your desktop.
5. Select the HTML file that launches Rapid Restore Ultra.

Note: Depending on the amount of data that is being backed up, the Rapid Restore installation can require a substantial amount of time. This is especially true when backing up via USB 1.1. Interrupting a Rapid Restore installation may result in data loss.

The computer will restart and display a status screen showing that a backup partition is being created or resized. The computers will restart into Windows for additional processing. Users will not be able to log on to the computer at this time.

After the partition has been created, the computer will restart again and a status screen will display showing the progress of the base backup.

After the backup is complete, the computer will restart to Windows. The user will be able to logon at this time and additional processing will be performed. When this is finished, a message will display indicating that the installation process is complete.

Reinstalling Rapid Restore Ultra

You should consider archiving your current backup sets to CD-R before reinstalling Rapid Restore Ultra. To reinstall Rapid Restore Ultra, you might need to uninstall certain previous versions. This will remove your current backups. Then you can install the newer version of Rapid Restore Ultra.

Uninstalling Rapid Restore Ultra

To uninstall Rapid Restore Ultra, click **Start > Control Panel > Add/Remove Programs > Rapid Restore Ultra**. The uninstall process will remove the program and all backup sets, resize or remove the backup partition, and return the additional hard disk space to the adjacent partition.

Chapter 4. Using Rapid Restore Ultra

Rapid Restore Ultra enables you to restore your system to any of three backed-up states, thereby granting you three levels of protection. Rapid Restore Ultra default settings establish a base level of protection; however, your specific backup strategy and schedule should be customized to your own needs.

Rapid Restore Ultra stores three backup images which reflect the state of your hard disk at the time of their creation, as follows:

- **The base backup image.** This compressed, complete sector-based backup file is created during the initial installation of Rapid Restore Ultra. This file reflects the state of your hard disk at the time Rapid Restore Ultra is installed. All files on your hard disk at that time are saved in the base backup image. This backup image cannot be updated.
- **The cumulative backup image.** This incremental backup file archives the files that have changed since the formation of the base backup image. This backup should be updated whenever your system software is updated or a database or application is added. Only files that do not match those in the base backup image are saved in the cumulative backup file. Updates to this backup image can only be initiated manually by using the Compress your data feature.
- **The most recent backup image.** This incremental backup file reflects the state of the hard disk when the most recent backup operation was performed. Only files that do not match those in the cumulative backup image are saved in the most recent backup file. Updates to this backup image can be scheduled or initiated manually.

Additional levels of protection can be achieved by using the following techniques:

- **By archiving your data to a CD.** By systematically archiving your cumulative backup image after each update, you will expand your recovery options in the event of a system failure. Each archived backup provides an additional level of protection against application and data loss, and enables you to update your backups without losing any recovery options.

For more information on this feature, see “Archiving your data to CD” on page 19.

- **By saving backups to the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore.** IBM Rapid Restore Ultra can save backups to a second hard disk drive. The IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore is a portable, lightweight, high-speed USB hard disk drive that is compatible with the USB 2.0 standard. This optional drive can be used with mobile or desktop computers and is compatible with USB 1.0 and USB 1.1 connections. This feature requires the IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore.

Backing up now

When you use the Schedule your backups function, backup operations are performed automatically according to your predefined schedule. If you want to perform a backup between scheduled backup operations, you must initiate the backup manually.

From Windows

To perform a backup between scheduled backup operations, complete the following procedure:

1. Click **Start > Programs > Access IBM > IBM Rapid Restore Ultra** to open Rapid Restore Ultra.

The main window opens, as shown in Figure 3



Figure 3. Rapid Restore Ultra main window

2. From the Rapid Restore Ultra main window, click **Backup**. The Backup window opens.
3. Click **Back up now**, as shown in Figure 4 on page 15.

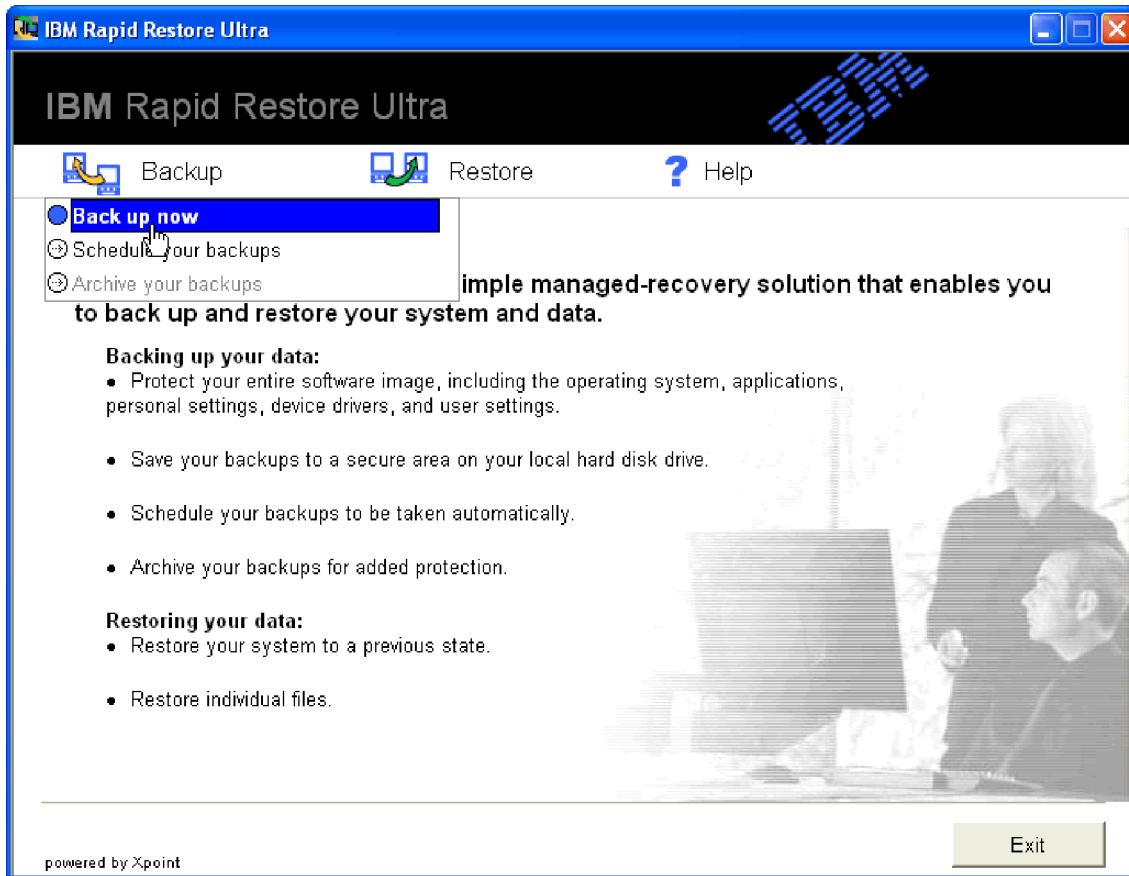


Figure 4. Back up now

The Back up your system window opens, as shown in Figure 5 on page 16.

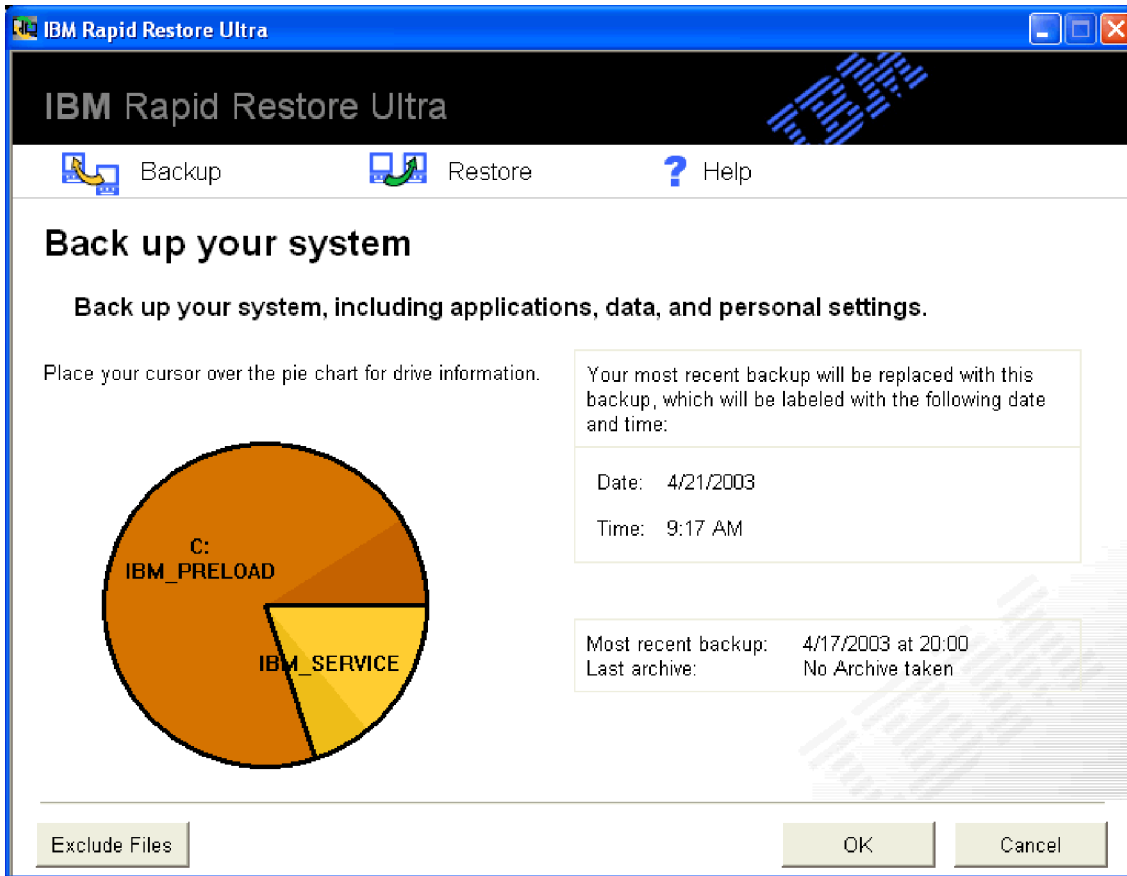


Figure 5. Back up your system window

Place your cursor over the pie chart to display the current space on your hard drive. See Figure 6 on page 17.

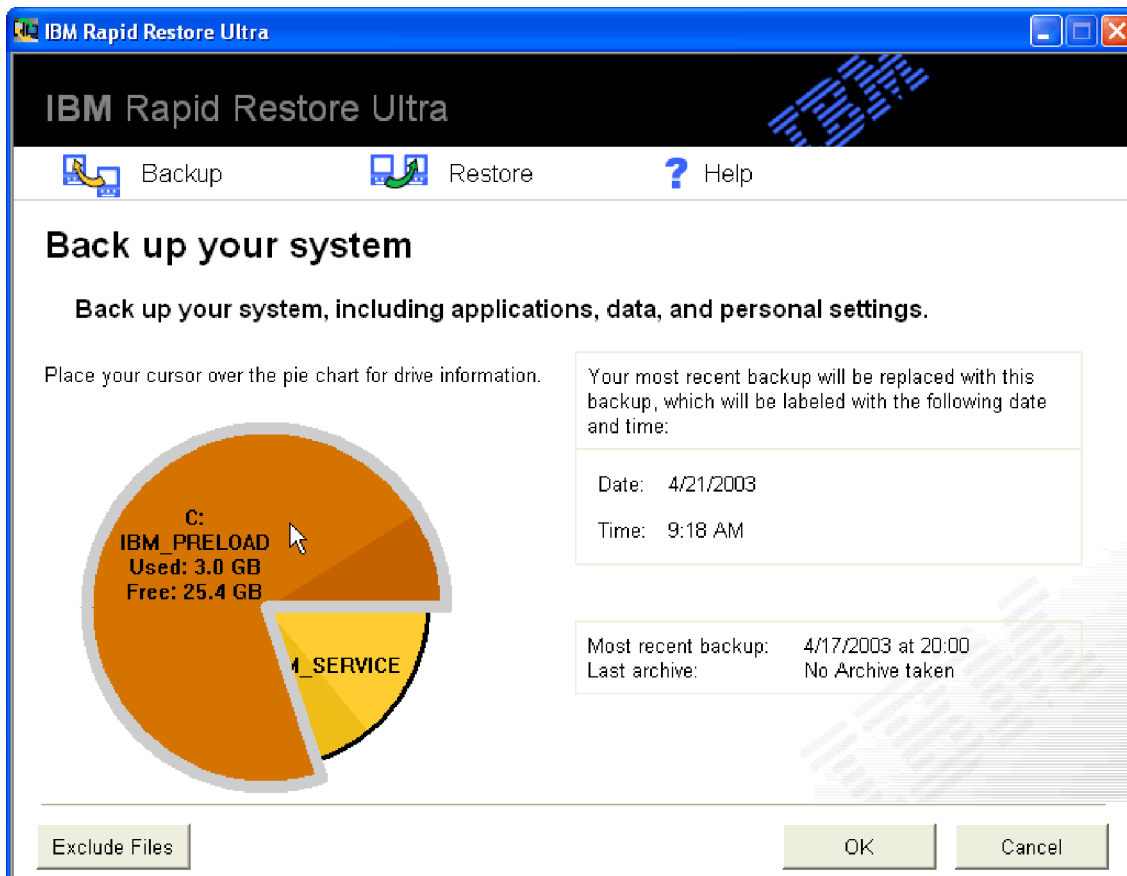


Figure 6. Hard drive information

4. To initiate the backup operation without excluding any files, click **OK**.
If you want to exclude files from your backup, complete the following procedure:
 - a. Click **Exclude Files**.
 - b. Select **Exclude files and folders...** and select the files or folders you want to exclude. See Figure 7 on page 18.

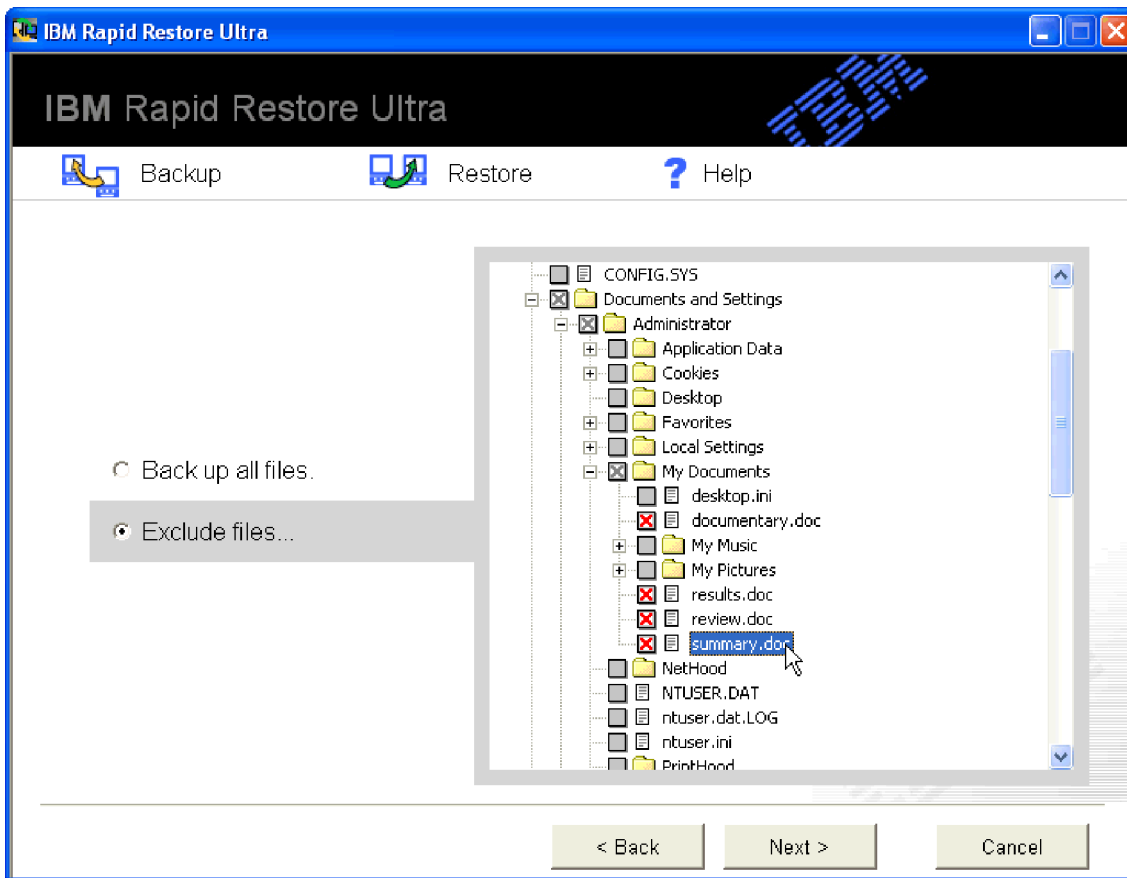


Figure 7. Exclude files and folders

- c. Click **Next**. The Backup Summary window opens, as shown in Figure 8 on page 19.

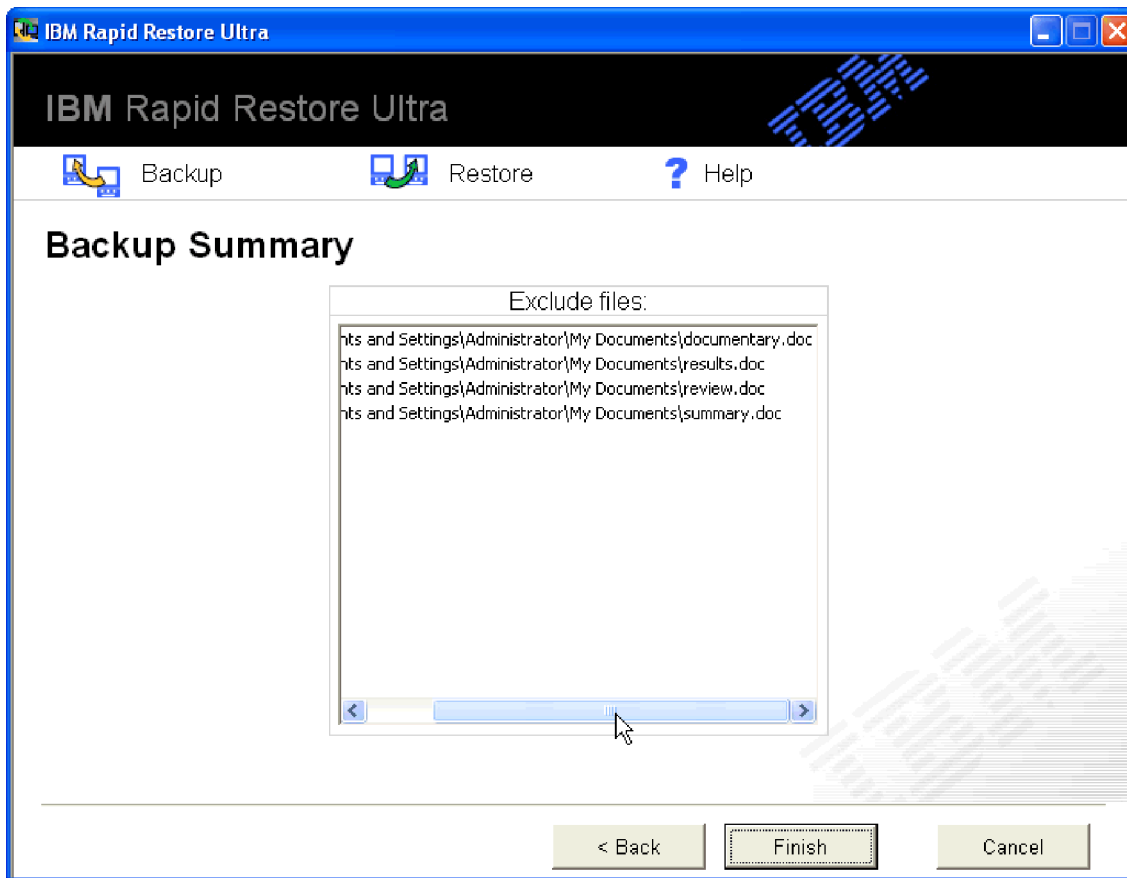


Figure 8. Backup Summary window

- d. To initiate the backup operation, click **Finish**.

Important: Do not turn off your computer or interrupt the backup operation until the backup operation is complete.

Notes:

1. Running another program, such as an anti-virus program, while performing a backup operation will adversely affect backup performance. Do not run any programs while performing a backup operation.
Run anti-virus programs before or after performing a backup or restore operation.
2. If you run out of storage space to back up your data, a window opens notifying you that the backup storage space is full. You can cancel the backup operation or expand the service partition.

Archiving your data to CD

If your system has a CD-R drive, Rapid Restore Ultra enables you to create a set of recovery CDs that you can use to restore the contents of the hard disk in the event of a hard disk drive failure. Archiving your files to archive CDs enhances backup protection and enables you to restore your system from any of your archived backup files.

To archive your backups, complete the following procedure:

1. From the Rapid Restore Ultra main window, click **Backup**. The Backup window opens.
2. Click **Archive your backups**.
3. Follow the instructions on the screen.

You need blank CD-R media when using the Archive your backups feature. Label each CD as it is created, and store them together in a safe place. The integrity of your archive is very important. CD-RW media is not supported because it is more susceptible to data loss or accidental erasure.

Restoring your data

Performing a restore operation restores the contents of your hard disk to a previously known state. This includes the operating system, software applications, registry settings, network settings, fix packs, desktop settings, data files, and so on.

Restoring through the Windows interface

To restore the entire contents of your hard disk using the Rapid Restore Ultra program, complete the following procedure:

1. Close all open application programs.
2. Open Rapid Restore Ultra.
3. From the Rapid Restore Ultra main window, click **Restore**. The Restore window opens.
4. Click **Restore your system**. A window opens presenting you with a list of backups including backup dates and times. These backups include the following types:
 - **Base backup**. The base backup restores the hard disk to the state that it was in when Rapid Restore Ultra was installed. This backup will be the oldest available backup.
 - **Cumulative backup**. The cumulative backup restores the hard disk to the state it was in on the date indicated.
 - **Most-recent backup**. This option restores the system to its most-recent backup state.
5. Click the backup you want to use.
Important: All data created since the backup you selected will be lost.
6. Click **OK**.

Important: Do not turn off your computer or interrupt the restore process until the restore process is complete.

Restoring through the Boot Manager (DOS)

In the event of a complete operating system failure, or if you are unable to start Rapid Restore Ultra through the Windows interface, you can use the Boot Manager to do a restore operation.

To use the Boot Manager, complete the following procedure:

1. Turn on your computer and press the F11 key or the Access IBM button during system startup.

Note: On some models, a prompt appears during startup to indicate when you should press the F11 key or the Access IBM button. On other models, you might not see a prompt. If you do not see a prompt, press and hold

the F11 key or the Access IBM button and then turn on the computer. Release the F11 key or the Access IBM button when the System Recovery menu opens.

2. When the System Recovery menu opens, select the desired recovery option and follow the instructions on the screen.

Restoring from the USB Hard Drive Outside of Windows

To restore from the USB hard drive outside of Windows, do the following:

1. Boot to the USB drive. You may need to go to BIOS to configure startup to do this.

The system boots the USB drive to a blue recovery screen, where you initiate the USB restore. This creates the service partition on the primary hard disk.

2. Boot to the primary drive.

The system will boot to the primary drive service partition, where the user can choose the backup to restore to.

Restoring from an archive

To restore your hard disk drive from a CD-R archive, complete the following procedure:

1. Insert the first CD-R into the CD drive and turn off the computer.
2. Restart the computer.
3. If necessary, press the F12 key during startup to select the CD drive from the list of bootable devices.
4. Follow the prompts on the screen. Insert additional CD-Rs when requested.
After the last CD-R has been processed, a list of available backups will be displayed.
5. Select the backup that you want to restore.

Restoring a single file

Rapid Restore Ultra enables you to easily recover individual files from your backup images. This can be very useful if you accidentally overwrite a critical file, or if you accidentally delete a file and empty the Windows Recycle Bin before you realize you deleted the file.

The Single File Restore feature can only be used to restore files from the most recent backup and the cumulative backup. Files that are in-use, active, or open cannot be restored. Active files include documents you are working with and any data that is open. Close all applications to ensure that the restore process completes properly.

To recover one or more individual files, complete the following procedure:

1. Do one of the following:
 - From the Rapid Restore Ultra main screen, click **Restore > Restore files**.
 - From the Windows desktop, click the **My Computer** icon, and then click **Single File Restore**. The Windows Explorer program opens.
2. In Windows Explorer, click the **Single_File_Restore** folder. Within the folder there are two subfolders:
 - "Drive(C)_Cumulative_Backup_xx_xx_xx_At_xx_xxxx"
 - "Drive(C)_Most_Recent_Backup_xx_xx_xx_At_xx_xxxx"

(where xx_xx_xx_At_xx_xxxx is the date and time the backup image was created or last updated).

3. Open the desired folder. The structure of the folder is similar to the structure of your hard disk. You might need to open additional subfolders to locate the file.

Note: Only files that have been created or modified since Rapid Restore Ultra was installed are listed in these folders. If the file you want to restore is not in either folder, you cannot restore it using this method; you will have to perform a complete recovery. See “Restoring your data” on page 20 for details.

4. When you locate the file, either double-click or right-click the file.
5. Click **Restore**. This automatically copies the file to the folder where it originally existed.

Note: Drag-and-drop operations are not supported.

Scheduling your backups

Establishing a schedule for your backup operations ensures that your valuable files will be systematically protected.

Setting your backup schedule

You can use the Scheduling your backups feature to schedule automatic backup operations to take place on a daily, weekly, or monthly basis at a day and time of your choice. If you prefer not to have backup operations take place automatically, you can use the Scheduling your backups feature to disable scheduled backup operations.

By default, backup operations are scheduled to take place weekly, on Mondays, at 8:00 p.m. Depending on how critical your data is or how often it changes, you might want to change the schedule so that backup operations take place more often or less often.

Note: If the computer has been shut down or is in sleep mode (standby) when a backup operation is scheduled to take place, the backup operation will not take place at the scheduled time. Instead, when the computer is started or awakened from the sleep mode, Rapid Restore Ultra displays a message asking if you want to perform a backup operation at that time.

Scheduling a backup

To set or change a backup schedule, do the following:

1. From the Rapid Restore Ultra main window, click **Backup**.
2. Click **Schedule your backups**.
3. Make sure the **On** radio button is selected.
4. Select the frequency, time, and day.

Note: Rapid Restore Ultra does not allow you to specify a scheduled monthly backup operation to take place on the 29th, 30th, or 31st day of the month. However, you can schedule the backup operation to take place at the end of the month.

5. Click **OK**.

Disabling scheduled backup operations

To disable scheduled backup operations, do the following:

1. From the Rapid Restore Ultra main window, click **Backup**.
2. Click the **Schedule your backups**.
3. Make sure the **Off** radio button is selected.
4. Click **OK**.

No further automatic backup operations will occur unless you reset the schedule. You can perform backup operations manually by selecting **Backup now** under the Backup menu on the Rapid Restore Ultra main window. For additional information about performing a manual backup operation, see “Backing up now” on page 13.

Appendix A. Troubleshooting

The following information might be helpful if you encounter trouble using the IBM Rapid Restore Ultra application.

General troubleshooting information

The following information might be helpful if you encounter trouble using the Rapid Restore Ultra software.

- When new Windows users are created, the system must be rebooted before the new users can be backed up.
- Do not use Rapid Restore Ultra in conjunction with any other utility software that modifies the master boot record. Software that modifies the master boot record of your hard disk might render your backups inaccessible. Such software includes, but is not limited to Roxio GoBack, System Commander, and PowerQuest BootMagic.
- If the Rapid Restore Ultra boot record is overwritten by another program and you need to restore the boot record, do the following:
 1. Go to a command prompt and change the directory to
C:\PROGRAM FILES\XPOINT\PE\DIAG
 2. Run “..\pcrecsa bmgr /Fmgr.dat /D1”

Note: If another program modified the boot record, restoring it to the Rapid Restore Ultra boot record might cause the other program to function improperly.

- Norton Antivirus 5.0 might not be able to read the boot record of the hard drive.

License information

The first time that you run Rapid Restore Ultra, the software verifies that a license has been assigned to the computer. If a license is not assigned, a window opens informing you that a license is required. Additional licenses are available from the <http://www.xpointdirect.com> Web site.

When installing Rapid Restore Ultra on an IBM computer for which the software has been licensed, you will not be prompted for a license key. If you are being prompted for a license key upon installation, you might be installing the software on a non-qualifying or non-IBM computer.

For a list of IBM computers for which this software is licensed, refer to <http://www.pc.ibm.com/qtechinfo/MIGR-4RZS2U.html> on the World Wide Web.

Users can purchase licenses for other computers from the <http://www.xpointdirect.com> Web site.

Adding or changing drive letters

Rapid Restore Ultra uses a kernel-mode device driver to back up open and locked files. Therefore, Rapid Restore Ultra and its device driver must be uninstalled and reinstalled whenever a drive letter changes. Changing a drive letter will make your existing backups inaccessible.

Alert messages

Rapid Restore Ultra provides advance alert messages for hard disk drives when performance parameters indicate that a hard disk partition might run out of storage space. An error message might display if a drive is failing or a partition is completely out of space. When you receive an alert message, follow the instructions on the screen.

Installation troubleshooting information

The following information might be helpful if you encounter trouble while attempting to install or uninstall the IBM Rapid Restore Ultra software.

Unable to install Rapid Restore Ultra

Rapid Restore Ultra cannot be reinstalled over certain previous versions. The earlier version must be uninstalled prior to installing the newer version.

Rapid Restore Ultra must be installed on the C: drive. Furthermore, if you are using SCSI hard disk drives, the C: drive must be installed on the lowest SCSI ID on all the local drives.

Multiple SCSI drives

Windows 2000 assigns drive letters based on SCSI IDs. On computers with multiple SCSI drives, Rapid Restore Ultra must be installed on HD0. Make sure that the drive containing the operating system is set to the lowest SCSI ID.

Uninstalling the software

To uninstall Rapid Restore Ultra from a computer running Windows 2000 Professional or Windows XP, you must log onto the computer with administrator rights. For more information on user accounts, see the help system provided with the operating system.

When a non-administrator tries to uninstall Rapid Restore Ultra, an error message will appear indicating that Rapid Restore files are corrupt when no files are actually corrupt. If an administrator uninstalls Rapid Restore, this message will not be displayed and Rapid Restore Ultra will uninstall correctly.

Partition troubleshooting information

Keep the following information in mind when working with Rapid Restore Ultra and drive partitions:

- Rapid Restore Ultra can only resize primary partitions.
- A service partition cannot be created on hard disk drives containing four primary partitions or an extended partition.
- If new partitions are added to a drive, RRPC must be reinstalled. Previous backups will be lost.
- You can only create a service partition on the first hard disk in the system. Backing up to a different hard disk, or to a network is only supported on Rapid Restore Professional Edition, which is available for purchase at <http://www.xpointdirect.com>.

IBM does not provide support on the Rapid Restore Professional Edition. Users who have upgraded will receive support from Xpoint and should contact them for assistance when using Rapid Restore Professional Edition.

- When attempting to write an image to your hard disk using an IBM recovery program or a third party image utility after IBM Rapid Restore Ultra has been installed, a message might display stating that an error was found on your disk due to differing LBA and CHS values. If you are prompted to allow a fix of this error, your Rapid Restore backups and service partition might not be accessible.
- The following error messages might appear during the installation of Rapid Restore Ultra or while the program is trying to resize an existing service partition:
 - The IBM service partition could not be created.
 - There is insufficient space on the hard disk.

To resolve these messages attempt to clear some space on your hard disk, install a second hard disk drive, or upgrade your system to Rapid Restore Professional Edition. Rapid Restore Ultra will provide the option to migrate all of your data from the first disk drive to the second drive so that you can then remove the first drive. During data migration, the new hard drive must be on the same IDE channel as the old hard drive. The fee-based upgrade of Rapid Restore Ultra is available at the <http://www.xpointdirect.com> Web site.

- Some disk utilities, such as Partition Magic, are not compatible with Rapid Restore Ultra because Rapid Restore Ultra locks the IBM service partition, making the partition inaccessible to applications, including Partition Magic.

Backup troubleshooting information

Rapid Restore Ultra notifies you if a valid base backup image does not exist. Then, it enables you to create a new base backup image.

The following information might be helpful if you encounter trouble while attempting a backup operation using IBM Rapid Restore Ultra software.

- Rapid Restore Ultra cannot backup files that are greater than 1.8 GB in size.
- User accounts are included in backup and restore operations. Therefore, if you restore your system to a time when a user did not exist or had a different password, that user will not be able to log in.
- If the Rapid Restore interface is closed while performing a Windows incremental backup, Rapid Restore Ultra will continue to backup files in the background.

Backup operation is slow

Backup performance depends upon the size and type of operation being performed. Backup operation performance can be optimized by performing frequent backups.

Running another program, such as an anti-virus program, while creating a backup image will adversely affect backup performance. Do not run any programs while creating a backup image.

Run anti-virus programs before or after performing a backup operation.

Notes:

1. Backups will take longer via USB 1.1.
2. To prevent possible database corruption, always close all applications and services before performing a backup operation.

Emptying the Recycle Bin or running FDISK

An error message might display if you attempt to empty the Recycle Bin or run FDISK while running Rapid Restore Ultra. If you receive this error message, close Rapid Restore Ultra; then attempt to empty the Recycle Bin or run FDISK.

Scheduling dates on the 29th, 30th, or 31st

Rapid Restore Ultra does not allow you to specify a scheduled backup on the 29th, 30th, or 31st day of the month, but you can schedule a backup for the end of the month.

Unable to select Archive your backups

If the CD-R Archive option is not available, the customer does not have an installed CD-R device.

CD-RW media are easily overwritten and degrade with each use. CD-RW media are not supported when creating a CD-R archive set.

To restore a backup set from a CD, your CD drive must be a supported boot option for the computer you are restoring.

In order to perform a CD-R Archive, the hard drive must have at least 700MB of free space.

Restore troubleshooting information

The following information might be helpful if you encounter trouble while attempting a restore operation using IBM Rapid Restore Ultra software.

To restore a backup set from a CD, your CD drive must be a supported boot option for the computer you are restoring.

Restore operation is slow

Restore operation performance depends upon the size and type of operation being performed.

Running another program, such as an anti-virus program, while restoring a backup image will adversely affect restore performance. Do not run any programs while creating or restoring a backup image.

Run anti-virus programs before or after performing a restore operation.

Note: To prevent possible database corruption, always close all applications and services before performing a restore operation.

Emptying the Recycle Bin or running FDISK

An error message might display if you attempt to empty the Recycle Bin or run FDISK while running Rapid Restore Ultra. If you receive this error message, close Rapid Restore Ultra; then attempt to empty the Recycle Bin or run FDISK.

User cannot log on after a restore operation

This problem will occur on multi-user systems when a new user is added and a backup operation takes place before the new user logs on for the first time.

To remedy this problem, the IT administrator must add the new user again and either restart the computer, or have the new user log on before the next backup operation.

To prevent this problem, restart the computer after adding a new user, or ensure that the new user logs on before the next backup operation is performed.

Power management troubleshooting information

The following information might be helpful if you encounter trouble while using the Rapid Restore Ultra due to power management issues, such as standby, hibernate, and power loss.

Rapid Restore Ultra will respond to a system request in the following manner:

- **When a Windows backup or CD-R Archive is in progress.** When a Windows backup or CD-R Archive is in progress and the system requests to enter standby/hibernate, Rapid Restore Ultra will stop the backup in progress and allow the power request to proceed. Upon resume, it will record the backup as failed and query the user to run the backup again.
- **When a Windows restore is in progress.** When a Windows restore is in progress, the power request will be rejected and the restore will continue.
- **When a DOS backup is in progress.** When a DOS backup is in progress, the power request will occur, and the user will have to reinitiate the backup.
- **When a DOS restore is in progress.** When a DOS restore is in progress, the power request will occur, and the user will have to initiate a restore to return the machine to a stable configuration.

Encryption troubleshooting information

The following information might be helpful if you encounter trouble while using the Rapid Restore Ultra with encrypted files.

Rapid Restore Ultra does not support Microsoft Windows encrypted files (EFS).

Boot Manager troubleshooting information

The following information might be helpful if you encounter trouble while using the Rapid Restore Ultra Boot Manager.

Boot Manager is not available

The Rapid Restore Ultra Boot Manager becomes available after an original backup image is created. If the prompt does not display during startup, one of the following conditions might apply:

- **An original backup image has not been created.** Use Rapid Restore Ultra to create an original backup image.
- **The prompt displayed too quickly.** Press and hold the F11 key or the Access IBM button and then turn on the computer. Release the F11 key or the Access IBM button when the System Recovery menu opens.

Appendix B. Glossary

Backup

Backup is the process of copying disk information so that it is preserved in case of equipment failures or software and operating system corruptions.

Base backup image

Original sector-based backup image of the primary hard disk created during the Rapid Restore installation process. This image is the foundation upon which cumulative and most recent backups are created.

Boot

Refers to the initial startup of a computer, such as when you power on or restart a computer.

Boot-time

The time during which a computer boots—when a computer starts up but the operating system has not yet taken over control of the computer. It is during this time that the OBRM's pre-operating system interface is accessible to the user.

Boot Manager

A software program stored in the master boot record that reads the boot sector record of the partition containing the operating system to be booted into RAM. In turn, that record contains a program that loads the rest of the operating system into RAM.

Byte

A group of eight bits, which can represent a number from zero through 255, a letter of the alphabet, or a variety of other things.

CD-R

CD-R (for compact disc, recordable) is a type of write once, read many (worm) compact disc (CD) format that allows one-time recording on a disc.

CD-RW

CD-RW (for compact disc, re-writable) is a compact disc (CD) format that allows repeated recording on a disc.

CD-ROM

Compact Disk Read-Only Memory. An electronic media commonly used within the software industry to store information. As the name implies, the original contents of a CD-ROM cannot be modified.

Controller

A specialized electronic circuit that serves as an interface between a device, such as a hard disk, and a computer. IDE and SCSI are examples of hard disk controllers.

Cumulative backup

A compressed incremental backup. The cumulative backup stores differential, or incremental, information as it relates to the base image and most recent backup.

Data

Information processed by a computer. Examples of data include database files, word processing documents, and html pages.

Database

A collection of related information about a subject, organized in a useful manner that provides a base or foundation for procedures such as retrieving information, drawing conclusions, and making decisions.

Data Migration Manager

The Data Migration Manager (DMM) enables users to move their existing disk image to a new, larger hard drive. The most common reason for migrating to another hard drive is the need for additional storage space. The two main obstacles most people encounter when performing a disk migration include the lack of IT knowledge required to successfully complete the process and the decreased productivity resulting from the downtime directly related to the migration process.

The Data Migration Manager's "One Button Migration" feature eliminates these barriers so users can effectively and efficiently migrate their disk image and data without compromising their uptime or data integrity. In addition, Rapid Restore's built-in migration technology handles all the complex decision-making so users don't need to be IT experts to properly migrate their disk image and data to a new hard disk.

Disk drive

A type of storage device used by computers.

Diskette

Removable storage medium.

Disk Image

A disk image is a file containing an exact and complete sector-based image of your hard disk. The image contains everything on your hard disk including disk format and structure (for example, FAT), boot sector, directories, operating system, software, registry settings, network settings, and data. The benefit of creating disk images is that users can quickly restore their entire system without needing to reinstall their operating system, applications, etc.

Drive letter

In Windows and MS-DOS operating systems, the naming convention for hard disks, consisting of a letter, followed by a colon (for example, C: or D:).

Extended partition

A type of partition that overcomes the limitation of four partitions per disk drive as one or more logical drives may be created within an extended partition.

FAT

See “File Allocation Table (FAT)” on page 33.

FAT file system

The file system used by MS-DOS and adapted for Windows to store information on hard disks, which makes use of a file allocation table. There are three types of FAT file systems including FAT12, FAT16, and FAT32.

File Allocation Table (FAT)

A table or list maintained by certain operating systems to keep track of how files are stored on a hard disk.

File system

The method used by an operating system to name, access, and organize files and directories on a disk (for example, FAT32 or NTFS).

Graphical user interface (GUI)

A user interface, as used in the Windows operating systems, which uses a mouse and graphic displays to interact with the user. The goal of a GUI is to make the program easier to use than a text-based application or operating system such as MS-DOS.

GUI

See “Graphical user interface (GUI)” on page 33.

Hard Disk

A specific type of disk drive comprised of one or more rigid metal platters.

IDE (Integrated Device Electronics)

A interface technology used to integrate a disk drive and a computer. Hard disks using IDE technology have their controller built directly into the disk drive eliminating the need for a separate controller card in the computer.

Interface

The connection and interaction between hardware, software, or the user.

Locked File

Files currently in use by your system and traditionally unavailable to other applications, including backup operations. Examples of applications that create locked files include Oracle databases, SQL servers, Lotus Notes[®], and e-mail servers.

Logical drive

A portion of a hard disk that is considered to be a single unit. In this context, logical means “conceptual” because there is no direct relationship between the name and a physical object.

Master Boot Record

The information in the first sector of any hard disk or diskette that identifies how and where an operating system is located so that it can be booted (loaded) into the computer’s main storage or random access memory. The master boot record is also sometimes called the “partition sector” or the “master partition table” because it includes a table that locates the hard disk’s partitions. In addition to this table, the master boot record also includes a program, known as the boot manager, that reads the boot sector record of the partition containing the operating system to be booted into RAM. In turn, that record contains a program that loads the rest of the operating system into RAM.

Master file table (MFT)

On an NTFS volume, the master file table is a file containing information about all other files in that volume. This includes the name of each file, its physical location on the disk, and other information.

MFT

See “Master file table (MFT)” on page 34.

Most Recent backup

A compressed incremental backup file reflecting the state of a hard disk at the time the backup is performed. Only files not matching those in the cumulative backup are stored in the most recent backup file. Most recent backups can be automated using Rapid Restore’s Schedule feature or performed manually.

One-Button Restore Manager (OBRM)

The One-Button Restore Manager is the backbone of Rapid Restore’s image and backup management capabilities. The OBRM is extremely powerful and integrates with several other Rapid Restore components so that users can easily restore the contents of their hard disk to a previously known state. The One-Button Restore Manager is easily accessible from several entry points including:

- Before Windows Runs (Pre-Operating System Mode)
- Windows Graphical User Interface (Windows Mode)
- Over the Network (Remote Management Mode)

Partition

A subdivision of the space on a disk drive that is treated as though it were a separate physical unit. A computer with only one hard disk drive can have a single partition, often called drive C:, or it can have several partitions, such as drive C:, drive D:, and drive E.

Peripheral device

A device located on the outside of a computer (for example a tape drive or a USB hard disk).

Permission

The ability of a user to access or modify files, especially those not created by that user. Permissions exist for security reasons including the prevention of unauthorized access to sensitive information.

Pre-operating system mode

The time between when a computer boots (starts up) and the operating system has not yet taken over control of the computer.

Primary partition

In Windows and MS-DOS operating systems, a hard disk can be divided into a maximum of four primary partitions; or three primary partitions plus an extended partition, which in turn can contain one or more logical drives.

RAID

See “Redundant Array of Independent Disks (RAID)” on page 35.

Redundant Array of Independent Disks (RAID)

A method of combining several hard disks to make one large volume. RAID configurations are typically used on a network file server to achieve faster access, greater protection against disk failure, or both.

Restore

The process of using an image or backup to revert to a previous hard disk state.

SCSI (Small Computer System Interface)

An interface technology used to integrate a disk drive and a computer.

Service partition

A hidden, locked partition on the local hard disk used for backup and restore operation. Service partitions are tightly compressed to save disk space and comprise the base image, cumulative backup, and most recent backup.

Site License Key

IT Administrators looking to access Rapid Restore’s enterprise-level functionality can do so by registering for a Site License Key. A Site License Key enables IT Administrators to efficiently configure, deploy, and manage Rapid Restore in an enterprise environment.

Snapshot

A snapshot backup replaces your existing cumulative backup with optimized cumulative backup data. This optimized backup consolidates all incremental

backup data (cumulative and most recent) into one cumulative backup. In addition, the snapshot process deletes the most recent backup.

Snapshot backups should be performed at significant checkpoints such as after the installation of a new application, creation of a new database, etc.

USB Drive

USB (Universal Serial Bus) drive is a plug-and-play hard drive that connects to your computer through a USB interface.

Utility

A program that provides basic services or functions.

Volume

A subdivision of the space on a hard disk that is treated as though it were a separate physical unit, or a combination of physical disks treated as a single unit. A computer with only one hard disk can have a single volume, often called drive C:, or it can have several volumes, such as drive C:, drive D:, and drive E:.

Volume set

A single logical drive composed of up to 32 areas of free space on one or more hard disks. Volume sets can be used to combine small areas of free space on one or more hard disks into a larger logical drive.

Appendix C. Warranty information

This section contains the warranty period for your product, information about obtaining warranty service and support, and the IBM Statement of Limited Warranty.

Warranty period

Contact your place of purchase for warranty service information.

Machine - IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore

Warranty period	Service delivery method
3 years	(CCE) Customer carry-in/mail-in

Service and support

The following information describes the technical support that is available for your product, during the warranty period or throughout the life of the product. Refer to your IBM Statement of Limited Warranty for a full explanation of IBM warranty terms.

Warranty information on the World Wide Web

The IBM Machine Warranties Web site at http://www.ibm.com/servers/support/machine_warranties/ contains a worldwide overview of the IBM Limited Warranty for IBM Machines, a glossary of terms used in the Statement of Limited Warranty, Frequently Asked Questions (FAQ), and links to Product Support Web pages. The IBM Statement of Limited Warranty is available from this Web site in 29 languages in Portable Document Format (PDF).

Online technical support

Online technical support is available during the life of your product through the Personal Computing Support Web site at <http://www.ibm.com/pc/support/>.

During the warranty period, assistance for replacement or exchange of defective components is available. In addition, if your IBM option is installed in an IBM computer, you might be entitled to service at your location. Your technical support representative can help you determine the best alternative.

Telephone technical support

Installation and configuration support through the IBM HelpCenter[®] will be withdrawn or made available for a fee, at IBM's discretion, 90 days after the option has been withdrawn from marketing. Additional support offerings, including step-by-step installation assistance, are available for a nominal fee.

To assist the technical support representative, have available as much of the following information as possible:

- Option name
- Option number

- Proof of purchase
- Computer manufacturer, model, serial number (if IBM), and manual
- Exact wording of the error message (if any)
- Description of the problem
- Hardware and software configuration information for your system

If possible, be at your computer. Your technical support representative might want to walk you through the problem during the call.

For the support telephone number and support hours by country, refer to the following table. If the number for your country or region is not listed, contact your IBM reseller or IBM marketing representative. Response time may vary depending on the number and nature of the calls received.

Support 24 hours a day, 7 days a week	
Canada (Toronto only)	416-383-3344
Canada (all other)	1-800-565-3344
U.S.A. and Puerto Rico	1-800-426-7378
All other countries and regions	Go to http://www.ibm.com/pc/support/ , and click Support Phone List .

IBM Statement of Limited Warranty Z125-4753-06 8/2000

Part 1 - General Terms

This Statement of Limited Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. The terms of Part 2 replace or modify those of Part 1. The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you purchase for your use, and not for resale, from IBM or your reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. The term "Machine" does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Limited Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

The IBM Warranty for Machines: IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications ("Specifications"). The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your sales receipt is the Date of Installation unless IBM or your reseller informs you otherwise.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at least functionally equivalent, you may return it to your place of purchase and your money will be refunded.

Extent of Warranty: The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.

Items Not Covered by Warranty: IBM does not warrant uninterrupted or error-free operation of a Machine. Any technical or other support provided for a Machine under warranty, such as assistance via telephone with "how-to" questions and those regarding Machine set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

Warranty Service: To obtain warranty service for a Machine, contact IBM or your reseller. If you do not register your Machine with IBM, you may be required to present proof of purchase.

During the warranty period, IBM or your reseller, if approved by IBM to provide warranty service, provides without charge certain types of repair and exchange service to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. At its discretion, IBM or your reseller will 1) either repair or exchange the failing Machine and 2) provide the service either at your location or a service center. IBM or your reseller will also manage and install selected engineering changes that apply to the Machine.

Some parts of IBM Machines are designated as Customer Replaceable Units (called "CRUs"), e.g., keyboards, memory, or hard disk drives. IBM ships CRUs to you for replacement by you. You must return all defective CRUs to IBM within 30 days of your receipt of the replacement CRU. You are responsible for downloading designated Machine Code and Licensed Internal Code updates from an IBM Internet Web site or from other electronic media, and following the instructions that IBM provides.

When warranty service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item. Many features, conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part.

Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service.

You also agree to

1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;
2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
3. where applicable, before service is provided:
 - a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provides;
 - b. secure all programs, data, and funds contained in a Machine;
 - c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfill their obligations; and
 - d. inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, your Machine while it is 1) in IBM's possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

Neither IBM nor your reseller is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

Limitation of Liability: Circumstances may arise where, because of a default on IBM's part or other liability, you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages from IBM (including fundamental breach, negligence, misrepresentation, or other

contract or tort claim), except for any liability that cannot be waived or limited by applicable laws, IBM is liable for no more than

1. damages for bodily injury (including death) and damage to real property and tangible personal property; and
2. the amount of any other actual direct damages, up to the charges (if recurring, 12 months' charges apply) for the Machine that is subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code.

This limit also applies to IBM's suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS IBM LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES, LOST PROFITS OR LOST SAVINGS, EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Governing Law

Governing Law: Both you and IBM consent to the application of the laws of the country in which you acquired the Machine to govern, interpret, and enforce all of your and IBM's rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard to conflict of law principles.

Part 2 - Country-unique Terms

AMERICAS

BRAZIL

Governing Law: *The following is added after the first sentence:*

Any litigation arising from this Agreement will be settled exclusively by the court of Rio de Janeiro.

NORTH AMERICA

Warranty Service: *The following is added to this Section:*

To obtain warranty service from IBM in Canada or the United States, call 1-800-IBM-SERV (426-7378).

CANADA

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws in the Province of Ontario.

UNITED STATES

Governing Law: *The following replaces “laws of the country in which you acquired the Machine” in the first sentence:*
laws of the State of New York.

ASIA PACIFIC

AUSTRALIA

The IBM Warranty for Machines: *The following paragraph is added to this Section:*
The warranties specified in this Section are in addition to any rights you may have under the Trade Practices Act 1974 or other similar legislation and are only limited to the extent permitted by the applicable legislation.

Limitation of Liability: *The following is added to this Section:*
Where IBM is in breach of a condition or warranty implied by the Trade Practices Act 1974 or other similar legislation, IBM’s liability is limited to the repair or replacement of the goods or the supply of equivalent goods. Where that condition or warranty relates to right to sell, quiet possession or clear title, or the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then none of the limitations in this paragraph apply.

Governing Law: *The following replaces “laws of the country in which you acquired the Machine” in the first sentence:*
laws of the State or Territory.

CAMBODIA, LAOS, AND VIETNAM

Governing Law: *The following replaces “laws of the country in which you acquired the Machine” in the first sentence:*
laws of the State of New York.

The following is added to this Section:
Disputes and differences arising out of or in connection with this Agreement shall be finally settled by arbitration which shall be held in Singapore in accordance with the rules of the International Chamber of Commerce (ICC). The arbitrator or arbitrators designated in conformity with those rules shall have the power to rule on their own competence and on the validity of the Agreement to submit to arbitration. The arbitration award shall be final and binding for the parties without appeal and the arbitral award shall be in writing and set forth the findings of fact and the conclusions of law.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The number of arbitrators shall be three, with each side to the dispute being entitled to appoint one arbitrator.

The two arbitrators appointed by the parties shall appoint a third arbitrator before proceeding upon the reference. The third arbitrator shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the ICC. Other vacancies shall be filled by the respective nominating party. Proceedings shall continue from the stage they were at when the vacancy occurred.

If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator shall be the sole arbitrator, provided that the arbitrator was validly and properly appointed.

The English language version of this Agreement prevails over any other language version.

HONG KONG AND MACAU

Governing Law: *The following replaces “laws of the country in which you acquired the Machine” in the first sentence:*

laws of Hong Kong Special Administrative Region.

INDIA

Limitation of Liability: *The following replaces items 1 and 2 of this Section:*

1. liability for bodily injury (including death) or damage to real property and tangible personal property will be limited to that caused by IBM’s negligence;
2. as to any other actual damage arising in any situation involving nonperformance by IBM pursuant to, or in any way related to the subject of this Statement of Limited Warranty, IBM’s liability will be limited to the charge paid by you for the individual Machine that is the subject of the claim.

JAPAN

Governing Law: *The following sentence is added to this Section:*

Any doubts concerning this Agreement will be initially resolved between us in good faith and in accordance with the principle of mutual trust.

NEW ZEALAND

The IBM Warranty for Machines: *The following paragraph is added to this Section:*

The warranties specified in this Section are in addition to any rights you may have under the Consumer Guarantees Act 1993 or other legislation which cannot be excluded or limited. The Consumer Guarantees Act 1993 will not apply in respect of any goods which IBM provides, if you require the goods for the purposes of a business as defined in that Act.

Limitation of Liability: *The following is added to this Section:*

Where Machines are not acquired for the purposes of a business as defined in the Consumer Guarantees Act 1993, the limitations in this Section are subject to the limitations in that Act.

PEOPLE’S REPUBLIC OF CHINA (PRC)

Governing Law: *The following replaces this Section:*

Both you and IBM consent to the application of the laws of the State of New York (except when local law requires otherwise) to govern, interpret, and enforce all your and IBM’s rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard to conflict of law principles.

Any disputes arising from or in connection with this Agreement will first be resolved by friendly negotiations, failing which either of us has the right to submit the dispute to the China International Economic and Trade Arbitration Commission in Beijing, the PRC, for arbitration in accordance with its arbitration rules in force at the time. The arbitration tribunal will consist of three arbitrators. The language to be used therein will be English and Chinese. An arbitral award will be final and binding on all the parties, and will be enforceable under the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958).

The arbitration fee will be borne by the losing party unless otherwise determined by the arbitral award.

During the course of arbitration, this Agreement will continue to be performed except for the part which the parties are disputing and which is undergoing arbitration.

EUROPE, MIDDLE EAST, AFRICA (EMEA)

THE FOLLOWING TERMS APPLY TO ALL EMEA COUNTRIES:

The terms of this Statement of Limited Warranty apply to Machines purchased from IBM or an IBM reseller.

Warranty Service: If you purchase an IBM Machine in Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland or United Kingdom, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM. If you purchase an IBM Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kirghizia, Federal Republic of Yugoslavia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, or Ukraine, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

If you purchase an IBM Machine in a Middle Eastern or African country, you may obtain warranty service for that Machine from the IBM entity within the country of purchase, if that IBM entity provides warranty service in that country, or from an IBM reseller, approved by IBM to perform warranty service on that Machine in that country. Warranty service in Africa is available within 50 kilometers of an IBM authorized service provider. You are responsible for transportation costs for Machines located outside 50 kilometers of an IBM authorized service provider.

Governing Law: The applicable laws that govern, interpret and enforce rights, duties, and obligations of each of us arising from, or relating in any manner to, the subject matter of this Statement, without regard to conflict of laws principles, as well as Country-unique terms and competent court for this Statement are those of the country in which the warranty service is being provided, except that in 1) Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Hungary, Former Yugoslav Republic of Macedonia, Romania, Slovakia, Slovenia, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan, the laws of Austria apply; 2) Estonia, Latvia, and Lithuania, the laws of Finland apply; 3) Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Djibouti, Democratic Republic of Congo, Equatorial Guinea, France, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Mali, Mauritania, Morocco, Niger, Senegal, Togo, and Tunisia, this Agreement will be construed and the legal relations between the parties will be determined in accordance with the French laws and all disputes arising out of this Agreement or related to its violation or execution, including summary proceedings, will be settled exclusively by the Commercial Court of Paris; 4) Angola, Bahrain, Botswana, Burundi, Egypt, Eritrea, Ethiopia, Ghana, Jordan, Kenya, Kuwait, Liberia, Malawi, Malta, Mozambique, Nigeria, Oman, Pakistan, Qatar, Rwanda, Sao Tome, Saudi Arabia, Sierra Leone, Somalia, Tanzania, Uganda, United Arab Emirates, United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe, this Agreement will be governed by English Law and

disputes relating to it will be submitted to the exclusive jurisdiction of the English courts; and 5) in Greece, Israel, Italy, Portugal, and Spain any legal claim arising out of this Statement will be brought before, and finally settled by, the competent court of Athens, Tel Aviv, Milan, Lisbon, and Madrid, respectively.

THE FOLLOWING TERMS APPLY TO THE COUNTRY SPECIFIED:

AUSTRIA AND GERMANY

The IBM Warranty for Machines: *The following replaces the first sentence of the first paragraph of this Section:*

The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

The following paragraphs are added to this Section:

The minimum warranty period for Machines is six months. In case IBM or your reseller is unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

Extent of Warranty: *The second paragraph does not apply.*

Warranty Service: *The following is added to this Section:*

During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

Limitation of Liability: *The following paragraph is added to this Section:*

The limitations and exclusions specified in the Statement of Limited Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

The following sentence is added to the end of item 2:

IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

EGYPT

Limitation of Liability: *The following replaces item 2 in this Section:*

as to any other actual direct damages, IBM's liability will be limited to the total amount you paid for the Machine that is the subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code.

Applicability of suppliers and resellers (unchanged).

FRANCE

Limitation of Liability: *The following replaces the second sentence of the first paragraph of this Section:*

In such instances, regardless of the basis on which you are entitled to claim damages from IBM, IBM is liable for no more than: *(items 1 and 2 unchanged).*

IRELAND

Extent of Warranty: *The following is added to this Section:*

Except as expressly provided in these terms and conditions, all statutory conditions, including all warranties implied, but without prejudice to the generality of the foregoing all warranties implied by the Sale of Goods Act 1893 or the Sale of Goods and Supply of Services Act 1980 are hereby excluded.

Limitation of Liability: *The following replaces items one and two of the first paragraph of this Section:*

1. death or personal injury or physical damage to your real property solely caused by IBM's negligence; and
2. the amount of any other actual direct damages, up to 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

Applicability of suppliers and resellers (unchanged).

The following paragraph is added at the end of this Section:

IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

ITALY

Limitation of Liability: *The following replaces the second sentence in the first paragraph:* In each such instance unless otherwise provided by mandatory law, IBM is liable for no more than:

1. *(unchanged)*
2. as to any other actual damage arising in all situations involving nonperformance by IBM pursuant to, or in any way related to the subject matter of this Statement of Warranty, IBM's liability, will be limited to the total amount you paid for the Machine that is the subject of the claim.

Applicability of suppliers and resellers (unchanged).

The following replaces the third paragraph of this Section:

Unless otherwise provided by mandatory law, IBM and your reseller are not liable for any of the following: *(items 1 and 2 unchanged)* 3) indirect damages, even if IBM or your reseller is informed of their possibility.

SOUTH AFRICA, NAMIBIA, BOTSWANA, LESOTHO AND SWAZILAND

Limitation of Liability: *The following is added to this Section:*

IBM's entire liability to you for actual damages arising in all situations involving nonperformance by IBM in respect of the subject matter of this Statement of Warranty will be limited to the charge paid by you for the individual Machine that is the subject of your claim from IBM.

UNITED KINGDOM

Limitation of Liability: *The following replaces items 1 and 2 of the first paragraph of this Section:*

1. death or personal injury or physical damage to your real property solely caused by IBM's negligence;
2. the amount of any other actual direct damages or loss, up to 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim;

The following item is added to this paragraph:

3. breach of IBM's obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982.

Applicability of suppliers and resellers (unchanged).

The following is added to the end of this Section:

IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

Appendix D. Notices

IBM may not offer the products, services, or features discussed in this document in all countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

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Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may

vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

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Electronic emission notices

Machine - IBM Portable 40 GB USB 2.0 Hard Drive with Rapid Restore

Federal Communications Commission (FCC) statement


Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible party:
International Business Machines Corporation
New Orchard Road
Armonk, NY 10504
Telephone: 1-919-543-2193

 Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

Industry Canada Class B emission compliance statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité a la réglementation d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Deutsche EMV-Direktive (electromagnetische Verträglichkeit)

Zulassungsbeseinigunglaut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richtlinie 89/336):

Dieses Gerät ist berechtigt in Übereinstimmungmit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die:

IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024:1998 und EN 55022:1998 Klasse B.
--

EN 55022 Hinweis:

“Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 55022:B festgelegt), dann kann es dabei eventuell gestört werden. In solch einem FA11 ist der Abstand bzw. die Abschirmungzu der industriellen Störquelle zu vergrößern.”

Anmerkung:

Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

European Union - emission directive

This product is in conformity with the protection requirements of EU Council Directive 89/336/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

IBM can not accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Union Européenne - Directive Conformité électromagnétique

Ce produit est conforme aux exigences de protection de la Directive 89/336/EEC du Conseil de l'UE sur le rapprochement des lois des États membres en matière de compatibilité électromagnétique.

IBM ne peut accepter aucune responsabilité pour le manquement aux exigences de protection résultant d'une modification non recommandée du produit, y compris l'installation de cartes autres que les cartes IBM.

Ce produit a été testé et il satisfait les conditions de l'équipement informatique de Classe B en vertu de Standard européen EN 55022. Les conditions pour l'équipement de Classe B ont été définies en fonction d'un contexte résidentiel ordinaire afin de fournir une protection raisonnable contre l'interférence d'appareils de communication autorisés.

Unione Europea - Directiva EMC (Conformidad electromagnética)

Este producto satisface los requisitos de protección del Consejo de la UE, Directiva 89/336/CEE en lo que a la legislatura de los Estados Miembros sobre compatibilidad electromagnética se refiere.

IBM no puede aceptar responsabilidad alguna si este producto deja de satisfacer dichos requisitos de protección como resultado de una modificación no recomendada del producto, incluyendo el ajuste de tarjetas de opción que no sean IBM.

Este producto ha sido probado y satisface los límites para Equipos Informáticos Clase B de conformidad con el Estándar Europeo EN 55022. Los límites para los equipos de Clase B se han establecido para entornos residenciales típicos a fin de proporcionar una protección razonable contra las interferencias con dispositivos de comunicación licenciados.

Union Europea - Normativa EMC

Questo prodotto è conforme alle normative di protezione ai sensi della Direttiva del Consiglio dell'Unione Europea 89/336/CEE sull'armonizzazione legislativa degli stati membri in materia di compatibilità elettromagnetica.

IBM non accetta responsabilità alcuna per la mancata conformità alle normative di protezione dovuta a modifiche non consigliate al prodotto, compresa l'installazione di schede e componenti di marca diversa da IBM.

Le prove effettuate sul presente prodotto hanno accertato che esso rientra nei limiti stabiliti per le apparecchiature di informatica Classe B ai sensi della Norma Europea EN 55022. I limiti delle apparecchiature della Classe B sono stati stabiliti

al fine di fornire ragionevole protezione da interferenze mediante dispositivi di comunicazione in concessione in ambienti residenziali tipici.

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取扱説明書に従って正しい取り扱いをして下さい。

Japanese statement of compliance for products less than or equal to 20 A per phase

高調波ガイドライン適合品



Part Number: 09N4258

Printed in U.S.A.

(1P) P/N: 09N4258

